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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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BLANK ROME LLP 600 NEW HAMPSHIRE AVENUE, N.W. WASHINGTON, DC 20037			EXAMINER LEE, JINHEE J	
			ART UNIT 2831	PAPER NUMBER

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/782,824

Applicant(s)

HERBORT ET AL.

Examiner

Jinhee J. Lee

Art Unit

2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 November 2005 and 01 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 6, 8, 14, 19 and 21 are rejected under 35 U.S.C. 103(a) as obvious over Madry et al. (5262593).

Re claim 1, Madry et al. discloses a cable comprising  
a conductor core (28, internal conductor);  
a filament (29, helix) wrapped around the conductor core in a spiral pattern; and  
an insulator (31, plastic tube) surrounding the filament-wrapped conductor core  
(see figure 9). Madry et al. does not explicitly disclose a spiral pattern having about 20-

30 twists/foot. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a spiral pattern having about 20-30 twists/foot, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Re claim 6, Madry et al. discloses a cable, wherein air is trapped adjacent to the filament resulting in a decrease in effective dielectric constant for the insulator (see figure 9).

Re claim 8, Madry et al. discloses a cable, further comprising a second conductor (30, external conductor) surrounding the insulator (see figure 9).

Re claim 14, Madry et al. discloses a method for making a cable comprising the steps of

providing a conductor core (28, internal conductor);

wrapping a filament (29, helix) over the conductor core in a helical pattern; and

surrounding the filament-wrapped conductor core with an insulator (31, plastic tube) (see figure 9). Madry et al. does not explicitly disclose a helical pattern having about 20-30 twists/foot. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a spiral pattern having about 20-30 twists/foot, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Re claim 19, Madry et al. discloses a method, wherein air is trapped adjacent to the filament resulting in a decrease in effective dielectric constant for the insulator (see figure 9).

Re claim 21, Madry et al. discloses a method, further comprising the step of surrounding the insulator with a second conductor (30, external conductor) (see figure 9).

4. Claims 2, 12, 13, 15, 27, 28, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madry et al. in view of Tuunanen et al. (6130385).

Re claim 2, Madry et al. substantially discloses a cable as set forth in claim 1 above. Madry et al. does not explicitly disclose that the conductor core is tinned copper, bare copper, or copper clad steel. However, Tuunanen et al. teaches of a conductor core that is tinned copper, bare copper, or copper clad steel (see column 4 line 20). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the copper core of Tuunanen et al. on the cable of Madry et al. in order to provide a common conducting core.

Re claim 12, Madry et al. substantially discloses a cable as set forth in claim 8 above. Madry et al. does not explicitly disclose that a jacket surrounds the second conductor. However, Tuunanen et al. teaches of jacket (5, outer sheath) surrounding a second conductor (see figures 1 and 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the jacket of Tuunanen et al. on the cable of Madry et al. in order to provide an outer insulation on the cable.

Re claim 13, note that Tuunanen et al. teaches of a jacket that is flame retardant (see column 5 line 31-37).

Re claim 15, Madry et al. substantially discloses a method as set forth in claim 14 above. Madry et al. does not explicitly disclose that the conductor core is tinned copper, bare copper, or copper clad steel. However, Tuunanen et al. teaches of a conductor core that is tinned copper, bare copper, or copper clad steel (see column 4 line 20). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the copper core of Tuunanen et al. on the cable of Madry et al. in order to provide a common conducting core.

Re claim 27, Madry et al. substantially discloses a coaxial cable comprising  
a conductor core (28, internal conductor);  
a filament (29, helix) wrapped around the conductor core in a spiral pattern;  
an insulator (31, plastic tube) surrounding the filament-wrapped conductor core;  
and a second conductor (30, external conductor) surrounding the insulator (see figure 9). Madry et al. does not explicitly disclose a spiral pattern having about 20-30 twists/foot. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a spiral pattern having about 20-30 twists/foot, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Also, Madry et al. does not explicitly disclose that a jacket surrounds the second conductor. However, Tuunanen et al. teaches of jacket (5, outer sheath) surrounding a second conductor (see figures 1 and 2). It would have been obvious to

one having ordinary skill in the art at the time the invention was made to use the jacket of Tuunanen et al. on the cable of Madry et al. in order to provide an outer insulation on the cable.

Re claim 28, note that Tuunanen et al. teaches of a conductor core that is tinned copper, bare copper, or copper clad steel (see column 4 line 20).

Re claim 32, note that Madry et al. discloses a cable, wherein air is trapped adjacent to the filament resulting in a decrease in effective dielectric constant for the insulator (see figure 9).

Re claim 33, Madry et al. modified by Tuunanen et al. substantially discloses a cable as set forth in claim 32 above. Madry et al./Tuunanen et al. does not explicitly disclose that the effective dielectric constant of the insulator is about 1.4 to about 2. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the material to have the effective dielectric constant of the insulator that is about 1.4 to about 2 in order to provide an optimum range of insulation, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

5. Claims 3 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madry et al. in view of Bondon (3227800).

Re claim 3, Madry et al. substantially discloses a cable as set forth in claim 1 above. Madry et al. does not explicitly disclose that the filament is made of PVC. However, Bondon teaches of a filament (10, spacer) made of PVC (see column 2 lines

49-50). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the PVC filament of Bondon on the cable of Madry et al. in order to provide insulation.

Re claim 16, Madry et al. substantially discloses a method as set forth in claim 14 above. Madry et al. does not explicitly disclose that the filament is made of PVC. However, Bondon teaches of a filament (10, spacer) made of PVC (see column 2 lines 49-50). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the PVC filament of Bondon on the method of Madry et al. in order to provide insulation.

6. Claims 4 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madry et al. in view of Sullivan (3089567).

Re claim 4, Madry et al. substantially discloses a cable as set forth in claim 1 above. Madry et al. does not explicitly disclose that the insulator is PVC. However, Sullivan teaches of an insulator (30, tubular member) that is PVC (see column 3 lines 39-40). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the PVC insulator of Sullivan on the cable of Madry et al. in order to provide insulation.

Re claim 17, Madry et al. substantially discloses a method as set forth in claim 14 above. Madry et al. does not explicitly disclose that the insulator is PVC. However, Sullivan teaches of an insulator (30, tubular member) that is PVC (see column 3 lines 39-40). It would have been obvious to one having ordinary skill in the art at the time the



invention was made to use the PVC insulator of Sullivan on the method of Madry et al. in order to provide insulation.

7. Claims 5 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madry et al. in view of Willis et al. (4910998).

Re claim 5, Madry et al. substantially discloses a cable as set forth in claim 1 above. Madry et al. does not explicitly disclose that the insulator is extruded over the filament wrapped conductor core. However, Willis et al. teaches of an insulator that is extruded over a filament (3a, dielectric element) wrapped conductor core (1, inner conductor) (see column 6 lines 6-7). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the extruded insulation of Willis et al. on the cable of Madry et al. in order to provide an insulative covering.

Re claim 18, Madry et al. substantially discloses a method as set forth in claim 14 above. Madry et al. does not explicitly disclose that the insulator is extruded over the filament wrapped conductor core. However, Willis et al. teaches of an insulator that is extruded over a filament (3a, dielectric element) wrapped conductor core (1, inner conductor) (see column 6 lines 6-7). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the extruded insulation of Willis et al. on the method of Madry et al. in order to provide an insulative covering.

8. Claims 7 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madry et al.

Re claim 7, Madry et al. substantially discloses a cable as set forth in claim 6 above. Madry et al. does not explicitly disclose that the effective dielectric constant of

the insulator is about 1.4 to about 2. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the material to have the effective dielectric constant of the insulator that is about 1.4 to about 2 in order to provide an optimum range of insulation, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Re claim 20, Madry et al. substantially discloses a method as set forth in claim 19 above. Madry et al. does not explicitly disclose that the effective dielectric constant of the insulator is about 1.4 to about 2. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the method to have the effective dielectric constant of the insulator that is about 1.4 to about 2 in order to provide an optimum range of insulation, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

9. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madry et al. in view of Houston et al. (6596393).

Re claim 9, Madry et al. substantially discloses a cable as set forth in claim 8 above. Madry et al. does not explicitly disclose that the second conductor is braided. However, Houston et al. teaches of a second conductor (20, outer conductor) that is braided (see column 5 lines 42-43). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the second conductor of

Houston et al. on the cable of Madry et al. in order to provide a flexible second conductor.

Re claim 10, Madry et al. substantially discloses a cable as set forth in claim 8 above. Madry et al. does not explicitly disclose that a shielding material is disposed between the second conductor and the insulator. However, Houston et al. teaches of a shielding material (shielding tape, 22) disposed between a second conductor (20, outer conductor) and an insulator (16, dielectric layer) (see column 5 lines 43-44). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the shielding material between the second conductor and the insulator of Houston et al. on the cable of Madry et al. in order to provide a flexible second conductor.

Re claim 11, note that the cable of Houston et al. teaches of a shielding material that is an aluminum and polyester tape (see column 5 lines 39-41).

10. Claims 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madry et al. in view of Bleich et al. (5898133).

Re claim 22, Madry et al. substantially discloses a cable as set forth in claim 21 above. Madry et al. does not explicitly disclose that the second conductor is braided. However, Bleich et al. teaches of a second conductor (18, outer metallic conductor with copper braid) that is braided (see column 3 lines 55-58). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the second conductor of Bleich et al. on the method of Madry et al. in order to provide a flexible second conductor.

Re claim 23, Madry et al. substantially discloses a method as set forth in claim 21 above. Madry et al. does not explicitly disclose that a shielding material is provided between the second conductor and the insulator. However, Bleich et al. teaches of a shielding material disposed between a second conductor (18, outer metallic conductor with inner layer of aluminum tape on copper braid) and an insulator (16, dielectric member) (see column 3 lines 55-58). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the shielding material between the second conductor and the insulator of Bleich et al. on the method of Madry et al. in order to provide a flexible second conductor.

Re claim 24, note that the method of Bleich et al. teaches of a shielding material that is an aluminum and polyester tape (see column 3 lines 55-58).

Re claim 25, note that the method of Bleich et al. teaches of further surrounding the second conductor with a jacket (20) (see figure 1).

Re claim 26, note that the method of Bleich et al. teaches of a jacket that is flame retardant (see abstract).

11. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Madry et al. in view of Tuunanen et al., as applied to claim 27 above, and further in view of Bondon (3227800).

Re claim 29, Madry et al. modified by Tuunanen et al. substantially discloses a cable as set forth in claim 27 above. Madry et al./Tuunanen et al. does not explicitly disclose that the filament is made of PVC. However, Bondon teaches of a filament (10, spacer) made of PVC (see column 2 lines 49-50). It would have been obvious to one

having ordinary skill in the art at the time the invention was made to use the PVC filament of Bondon on the cable of Madry et al./Tuunanen et al. in order to provide insulation.

12. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Madry et al. in view of Tuunanen et al., as applied to claim 27 above, and further in view of Sullivan (3089567).

Re claim 30, Madry et al. modified by Tuunanen et al. substantially discloses a cable as set forth in claim 27 above. Madry et al./Tuunanen et al. does not explicitly disclose that the insulator is PVC. However, Sullivan teaches of an insulator (30, tubular member) that is PVC (see column 3 lines 39-40). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the PVC insulator of Sullivan on the cable of Madry et al./Tuunanen et al. in order to provide insulation.

13. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Madry et al. in view of Tuunanen et al., as applied to claim 27 above, and further in view of Willis et al. (4910998).

Re claim 31, Madry et al. modified by Tuunanen et al. substantially discloses a cable as set forth in claim 27 above. Madry et al./Tuunanen et al. does not explicitly disclose that the insulator is extruded over the filament wrapped conductor core. However, Willis et al. teaches of an insulator that is extruded over a filament (3a, dielectric element) wrapped conductor core (1, inner conductor) (see column 6 lines 6-7). It would have been obvious to one having ordinary skill in the art at the time the

invention was made to use the extruded insulation of Willis et al. on the cable of Madry et al./Tuunanen et al. in order to provide an insulative covering.

14. Claims 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madry et al. in view of Tuunanen et al., as applied to claim 27 above, and further in view of Houston et al. (6596393).

Re claim 34, Madry et al. modified by Tuunanen et al. substantially discloses a cable as set forth in claim 27 above. Madry et al./Tuunanen et al. does not explicitly disclose that the second conductor is braided. However, Houston et al. teaches of a second conductor (20, outer conductor) that is braided (see column 5 lines 42-43). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the second conductor of Houston et al. on the cable of Madry et al./Tuunanen et al. in order to provide a flexible second conductor.

Re claim 35, Madry et al. modified by Tuunanen et al. substantially discloses a cable as set forth in claim 27 above. Madry et al./Tuunanen et al. does not explicitly disclose that a shielding material is disposed between the second conductor and the insulator. However, Houston et al. teaches of a shielding material (shielding tape, 22) disposed between a second conductor (20, outer conductor) and an insulator (16, dielectric layer) (see column 5 lines 43-44). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the shielding material between the second conductor and the insulator of Houston et al. on the cable of Madry et al./Tuunanen et al. in order to provide a flexible second conductor.

Re claim 36, note that the cable of Houston et al. teaches of a shielding material that is an aluminum and polyester tape (see column 5 lines 39-41).

***Response to Arguments***

15. Applicant's arguments filed 6/27/05 have been fully considered but they are not persuasive in view of the new 103 rejections.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jinhee J. Lee whose telephone number is 571-272-1977. The examiner can normally be reached on M, T, Th and F at 6:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean A. Reichard can be reached on 571-272-2800 ext. 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jinhee J Lee  
Patent Examiner  
Art Unit 2831

